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THE GENESEE FARMER.

SATURDAY, FEBRUARY 10, 1838.

THE GREAT WEST—CATTLE—SILK.

It is scarcely possible to conceive any thing more gratifying to the true lover of mankind, and more spirit stirring, than the spectacle which the great valley of the Mississippi will present some fifty years hence, with its teeming millions of inhabitants—its majestic and beautiful rivers crowded with steam-boats—their shores crowned with cities, and alive with the hum of commerce—its immense prairies, and fertile plains, dotted with villages, covered with highly cultivated farms, and rich in all the productions of agriculture—while the arts and the sciences, literature and morality, follow in the train of competence and wealth, and religion lends her purifying influence to enlighten and beautify the whole.

It is plain that nature has marked the country as the seat of a mighty empire, and profusely showered upon it all the advantages which can be required to fulfil the destiny. The whole world cannot produce a country which, in its variety of climate, and capability of producing all the valuable articles of the tropical and temperate zones, can compare with the country drained by the Mississippi and the upper valley of the great lakes. The cotton, sugar, orange, corn, wheat, fruit, and vegetables, which in other countries are the productions of different and widely separated states, are here as it were mingled together, under one government, one people, and with but one interest, the prosperity of all.

Favorably situated as the great west is, however, so far as regards the producing all the necessaries, and most of the luxuries of life, its insular situation must cause much of its trade to pass through channels provided by other states, and as their immensity of surplus productions must find a market abroad, it becomes the duty and policy of the inhabitants to turn their attention to such articles as will best bear the cost of transportation and exchange, and give the most real profit to the producer. So long as the tide of emigration flows into the western states as it does at present, and will probably for years continue to do, a market will be found at home for most of the provisions that can be grown, and but a comparatively small quantity can be sent abroad. This fact is illustrated in a satisfactory manner by the relative situation of the adjoining states of Ohio and Michigan; both produce grain in great quantities; in both the soil is of the best qualities, and the labor of the husbandman rarely fails of an abundant reward. In Ohio the population is so great, or the country is so settled, that a great surplus is produced for exportation over and above the wants of the inhabitants; in Michigan the consumers, owing to the increase of population by emigration, exceed the producers, and nothing is exported, while provisions are much higher than in the sister state. This disparity will soon cease. Emigration to Michigan will be suspended in a measure, the producers will increase, prices will fall, and provisions be exported, as is the case now from Ohio. Property of all kinds, lands, stock, bank stock and bank notes, will become of equal value in the two states, though at the present moment Ohio has the advantage; for it is a fact, that the credit of a state or a country is depending greatly on the value of its exportations, and not on its absolute wealth.

We think the western states will eventually find their great source of wealth in two things—the breeding of cattle, and the growth and manufacture of silk; and that grain will not be raised in ordinary cases for transportation abroad. For these purposes the west possesses the greatest advantages. The luxuriance of their pastures, the mildness of the winters, and easy manner in which animals can be disposed of when reared, point to cattle as an essential source of wealth; while the fineness of the climate, and the abundance of the wild mulberry scattered over the country, prove its suitableness for the prosecution of the silk culture. The experiments which have been made with the mulberry, and the feeding of worms, have been most satisfactory; and the planting of the Chinese mulberry, and the prosecution of the manufacture, are, we are most happy to see from the western papers, going on with spirit and success. The silk culture is one which there is little reason to fear will be overdone, and so long as from 20 to 25 millions of dollars are sent abroad annually for silk, there is no cause for apprehension of a want of market.

In the improvement of their stocks of cattle, by the importation of the choicest foreign varieties, the farmers of Ohio and Kentucky have set a most patriotic and praiseworthy example to their brethren in other states, sparing neither money or expense in the pursuit of this great national as well as individual object. From the sales of these animals that take place from time to time, and the manner in which the high prices are sustained, it is evident that the spirit of improvement in this respect has taken a deep root, and we trust will rapidly spread. The advantages of rearing the improved breeds can only be fully appreciated by those who have had opportunities of comparing them with the common stock of the country. Their superiority for milk, their heavier and quicker growth, their early ripeness for the butcher, and their general excellence, wherever their merits have been fairly tested, show that the confidence of our western agriculturists has not been misplaced, or the expenses incurred in their introduction thrown away.

The farmers of Western New York have been too negligent in this matter, we think, for their own interests; and when an opportunity offers of correcting the error, and furnishing themselves with the improved breeds, it should be promptly embraced. Our able correspondent "South-hill," from Cortland, has placed this business in its proper light in his account of his visit to the Butternuts in Otsego. Unless farmers can furnish more substantial objections to the improved breeds of cattle and swine than such as arise from mere color, as is the fact with regard to the Short Horns and Berkshire pigs, enlightened men will consider them as of little value, and view farmers as sacrificing the substance for the shadow. A large part of the southern tier of counties in this state is well adapted to the raising of cattle, and the subject of improving their stock should not be overlooked.

ON PLOUGHS AND PLOUGHING.

At the October fair of the American Institute at New York, several ploughs were offered for premiums, or as specimens of workmanship, and after a trial of their merits the medal was awarded to Mr. Dutcher. In receiving the prize, Mr. D., in compliance with a regulation of the Institute, presented a brief sketch of what he deemed the theory of ploughs and ploughing, evincing much good sense, and explaining the causes why many ploughs perform well at one rate of motion, that are worthless and ineffectual at another. Mr. D. says:

"I will just advert to a ploughing match which was got up by the Agricultural Society of Greene, in this state. On that occasion the premium was to be given to the plough that would plough the most ground in one hour, and do it the best. A very fair proposition to be sure—but mark the result: my poorest plough obtained the premium—the poorest beat the best. Let us see how this can be. In order to plough the most in an hour, the team was driven to its utmost speed. A plough constructed to throw the furrow right at a speed a team could continue through the day, put in rapid motion, would give an extra impulse to the furrow, deranging it and throwing it twice over. But the plough that was good for nothing at the common speed, letting half the furrow fall back, at this extra speed threw the furrow well. A plough which would require such speed throughout the day it is evident must be wrong in its construction. Let it be remembered that the speed of ploughs has much to do with the performance of the work; yet managers of ploughing matches often test the ploughs without regard to this consideration.

"Without arrogating to myself any knowledge superior to that which all men should have in their profession, I will here lay down some principles which I consider essential in the plough. In order to do this to advantage, I will introduce some reasonings of English writers on the subject. They give it as their opinion, that a heavy plough is preferable to a light one, on the supposition that the more weight in a plough, the easier it overcomes resistance when in motion.

"Now, if the resistance the plough meets with was not as constant as its motion, but only occasionally, or at intervals, like a sawmill, where the power is laid out only one half of the time, permitting the plough to accelerate its motion during the suspension of resistance, then the argument would have some force. But the resistance to the plough is continual. The question may be asked, does not increased weight require increased strength to keep it in motion? I answer, yes. Therefore all the weight a plough has, more than its strength requires, is a dead loss. The conclusion, therefore, is, that a plough should be as light as its strength will permit.

"Another principle to be kept in view in the construction of a plough is its durability. Some parts are more exposed to wear than others. All these should be so made that they can be replaced, when worn, with the least trouble.

"Another principle is, that all that portion of the plough called the running part, and which is most subject to wear, should be made of cast iron, the most suitable metal now known for the plough ordinarily used. * * In the western prairies, wrought iron may be the most suitable, where a share kept to an edge for cutting the large grass roots is required,—the ploughman having to keep a file with him for that purpose.

"The use of coulters is too much disregarded by farmers generally; and when it is used, it is often very improperly placed by manufacturers, most of whom have not had sufficient practice to construct this important implement on correct principles. The coulters are set with their points inclining towards the land a little, so as to cut under the surface sod. This is a great mistake; it should be set so as to cut the furrow one quarter or half an inch wider at the top than at the bottom; this will admit the furrow slice to rise easier without breaking the edge."

These principles of construction will we think commend themselves to every farmer, who is in the habit of noticing the movement of his plough. English ploughs are usually enormously heavy, compared with the best ploughs in this country, and for particular purposes have reached the weight of 400 pounds, requiring six horses. In finish, and adjustment of parts, English ploughs have altogether the advantage of ours; theirs seem to be made on the principle of putting all the labor possible upon them—ours on that of putting as little as possible. They seem to aim at weight, we at lightness; perhaps in both the respects of finish and weight we might take lessons of each other with mutual advantage. That a plough can be constructed, adapted to all kinds of work, few will pretend; but all ploughs can be constructed on correct principles, and finished in such a manner as to strength and durability, with lightness and ease of working. There is no farming implement on which more is depending than on the plough, and perhaps none which is so frequently got up in so blundering and unscientific a manner. The last 20 years has witnessed a vast improvement in ploughs, but the manufacturer should remember what the farmer well knows, that there is room for greater improvement still, and direct his genius and skill to the supplying the deficiency.

The cotton factory of Jonathan Hatch, in Chester, Pa., was destroyed by fire Jan. 23d. Loss $20,000; insurance $8,000.

Highest and Lowest Prices for 40 Years.

In the Journal of the American Institute for January, is an interesting table showing the prices of 14 different articles in the New York market for the term of 40 years. Not having room for the whole, we have condensed the table so as to show the highest and the lowest prices, the years of such prices, and the average of the 40 years. Such tables are convenient for reference.

Tne highest price of coffee was in 1806, at 32 cents; and the lowest in 1834, at 12 cts. It will be seen that the most of the articles reached their highest prices during the late war with Great Britain, especially those for which we are dependent on other nations; while the prices of provisions reached their maximum in the cold seasons of 1817, 18, 19. The table extends from the year 1795 to the year 1834, both included. The difference in the prices of some of the articles at different times, would surprise one, did not the difference in the seasons, and the state of the country and cultivation, account for the changes. Since 1820 there has been much less fluctuation in prices than at any time formerly, though it will be seen the table does not include the variable, and in some instances high prices, of the two past years.

Articles,	*Flour.*	*North. Corn.*	*Rye.*	*Barley*	*Rice.*	*No. 1 Beef.*	*No. 1 Pork.*	*Cod-fish.*	*Cotton upland*	*Tobacco Va. leaf*	*Tea, Hyson.*	*Mus. Sugar.*	*Molas-ses.*
Highest price,	1817 $14,75	1817 1,90	1814 2,25	1802 7,25	1796 1,00	1819 14,50	1818 26,50	1801 6,00	1800 0,40	1816 20,00	1814 2,10	1814 18,50	1814 0,85
Lowest price,	1826 $5,25	1821 0,43	1821 0,45	1821 0,50	1798 2,25	1824 7,00	1827 10,50	1830 2,08	1831 0,10	1829 4,50	1833 0,70	1832 8,40	1830 0,25
Average price for 40 years,	$8 51 pr. bbl.	0,86½ pr. bus.	0,98 pr. bus.	0,84 pr. bus.	4,61 pr. cwt.	10,22 pr. bbl.	16.59 pr. bbl.	3,76 pr. cwt.	0,20½ pr. lb.	8,07 pr. cwt.	1,16 pr. lb.	12,83 pr. cwt.	0,44 pr. gal.

THE ROHAN POTATOE.

In a late number of the Farmer, we called the attention of agriculturists to this new variety of the potatoe, introduced into this country from France, and cultivated by Mr. Thompson of Cattskill, and which promises to be a great acquisition from its reported valuable qualities.—Since perusing that notice, we have observed in a foreign Journal of Agriculture, a letter from the gentleman whose name the potatoe bears; and as it gives a somewhat curious history of its origin, and also some particulars of what is there deemed the best mode of cultivating the root, we lay the letter before our readers. It is translated from the French journal,—*Le Cultivateur, Journal des Progres Agricoles;* and is an extract from a letter of Prince Charles de Rohan, to M. Jacquemont—Bonnefont.

"I send you, through my friend M. Romilly, the potatoe I promised you; and to which my name has been given in this country. The history of the potatoe is not less singular than the potatoe itself. The man who obtained it from seed in Holland four years ago, shows it, but will not give it to any person: he has refused it to King William. He has cultivated it in a little walled enclosure; he only wishes to see it in perfection, and the seed of the following year. He causes them to be taken up in his presence; and keeps them under lock and key. It is at great risk that I have been able to procure two tubers. This exclusive amateur having learnt that I had some *cactuses*, which he wished much to have, begged of me to give him some. I wished no money, but very much to have some of his wonderful potatoe. He gave me two of them, and made me give my word of honor, that I would never send any of them to Holland, Belgium, England, Prussia, or Germany. Happily he has not thought of Switzerland nor France; for without this omission, I could not now have the pleasure of offering them to you.

This is the mode of cultivating this potatoe:—The earth is dug to the depth of twenty inches; make the distance between the holes four feet, and put two or three eyes or sets in each hole. Earth up frequently. The stalks reaching six or seven feet in height, need to be supported on transverse stakes. The potatoe being late, the tubers, which are very farinaceous, or mealy, should only be taken up about Martinmas, when the stalks wither.

To give you an idea of the extroardinary produce of this potatoe, I give three examples at random. M. F. Martial at Alais, gathered last autumn, tubers weighing 13 lbs. 7 oz., 11 lbs. 9 oz., and 9 lbs. 12 oz. M. de Montel, a proprietor near me, asked me for tubers, when I could not give him more than a single small tuber having four eyes. He weighed it for curiosity, and found it lacked a few grains of half an ounce. This small tuber being planted, produced 48 pounds. The attorney of the abbey of Auterive, canton of Fribourg, to whom I gave two tubers two years ago, and who, delighted with his first harvest, after having eaten and given some to his friends, planted the rest, and obtained last autumn six double horse loads and eight scuttle-fulls. It is not the largest tubers that succeed best as seed."

THE LEGISLATURE AND AGRICULTURE.

Since our last recurrence to this topic, a committee, consisting of able and active members of the legislature, has been appointe dwith particular reference to the interests of agriculture, and we may now hope that the subject will receive the careful attention and decisive action which it demands. We are particularly pleased to see as chairman of the committee, Lewis F. Allen, Esq., the Ulmus of the Genesee Farmer. A more fortunate selection could not have been made, and we may be sure that whatever an intimate acquaintance with the great interests of agriculture—enlarged and liberal views of state poilcy—a just appreciation of what is due to the rank and influence of the farmer, and a desire to elevate and improve his condition and prospects, can effect, will not be wanting. We are confident that nothing is now wanting but an expression of opinion generally from the farmers as to their wishes, to have those wishes listened to, and all proper measures adopted to restore the agriculture of the state to the position it should and must hold, if New York is to retain the enviable supremacy in population, wealth, and general prosperity, to which her situation entitles her. When farmers ask for a general law authorising the formation of agricultural societies in the several counties, and an appropriation from the state treasury to assist in carrying the object of such associations into effect, they feel their request is not unreasonable. That treasury they cheerfully assist in filling—and while they rejoice to see it liberally opened to the great interests of education, they must insist that the important truth, that we are and must be essentially an agricultural people, should not be lost sight of in the endeavors to promote the public good.

HARVEST AT HOLKHAM.

The peculiarities of English agriculture, both in its excellencies and its defects, are more strongly brought into view at harvest time, perhaps, than at any other. To an American farmer their luxuriant crops, clean fields, and extensive ranges of ricks or stacks, are singularly contrasted with the multitude of women and boys in the fields, and the inordinate quantities of strong beer consumed by the laborers; a gallon a day being the usual allowance to each field laborer, and where hard work is required, the amount is increased. Hillyard, in his late work on practical farming, says—

"I was at Holkham about eight days in the year 1831, at the time the wheat was harvesting, and an animated sight it was. I counted about a hundred men, women and boys employed in one large field. In this way 345 acres of wheat were cut, carted, and stacked, in six days. This was getting on with wheat harvest, more expeditiously, perhaps, than is in the power of any other person in the kingdom. I saw at the same time 450 acres of turneps, of different sorts, and mangel wurtzel, in which Mr. Coke challenged me to find a single weed, excepting some that might have just sprung up out of the ground. I could not see one weed that was three or four inches long; this was such clean farming, on a large scale, as probably could not be seen in any other part of the world."

Keeping Calves among Sheep.

From our own experience, and from the opinion of others who have tried it, we believe that the best method of wintering calves is to let them run among sheep, and eat and *sleep* with them. Calves kept in this manner are very healthy, and are never troubled with lice; and some farmers who follow this practice observe that calves that were lousy have been completely rid of them after being kept awhile with sheep. Sheep soon eat up the finest fodder, and the coarsest is left for the calves, which is considered best for young cattle, as their digestive powers are strong. And we have no doubt that fodder exposed to the manure and urine of sheep may be rendered much more wholesome for some kinds of animals, as it may then possess medicinal virtues. We have had sick horses improve very much merely by being kept on fodder left by sheep; and we have sometimes raked out the orts that were covered several inches deep in manure, supposing that would be most efficacious in effecting a cure, and have found that horses would eat it heartily and improve in health and gain in flesh. Such feed is doubtless not only a good medicine for diseased horses but a preventive of disorders, and should be fed occasionally to them.

Sheep manure possesses highly medicinal virtues for animals, and not only for quadrupeds but for bipeds. We have known a strong dose of sheep dung tea to afford relief in bad cases of the measles where other medicines have failed. Some would consider this a nauseous dose, but it is equally as clean and much less nauseous than many doses that are administered.

We are straying from our subject, and perhaps intruding upon the profession of the *faculty* or the business of *quacks*; but before returning we would remark, that almost every farmer has upon his own premises medicines for most every disorder, and he should exercise his faculties in learning their virtues, instead of depending too much on others in furnishing him with medicines.

The first winter we kept calves among sheep, we had two that were so poor and dull that we could not drive them out of our way as we met them in a path, nor could we make them move but slowly with the aid of a good rod. We thought that without extra keeping and attention they would not live through the winter, and we put them among the sheep, and in two months they were in good order, and so active that we could hardly catch them. During this time the sheep and calves were fed wholly on hay. This method saves time in taking care of calves, and they are not liable to be injured by being among the larger cattle. They can go under a shelter or out in the air as they please, if the sheep are suitably provided with accommodations.

This subject is worthy the attention of farmers, and we make these remarks hoping that many will be disposed to try this method, that further experiments may determine wheather it be an improvement.—*Yankee Farmer.*

From the Cultivator.

Great Crop of Corn.

Judge Buel,—Dear Sir,—I send you a statement of the expense and product of an acre of Indian corn, raised by me, together with the mode of its cultivation. The corn was the little eight rowed yellow variety.

Soil and Culture.—The soil is a warm sandy loam. It was ploughed deep in the autumn of 1836. About the first of May, I carried on, and spread all over the ground, about thirty loads of stable and barn yard unfermented manure, then rolled and harrowed the ground well, being careful not to disturb the sod, which was timothy, and mown the summer preceding; and on the 9th and 10th May planted the same, two and a half feet between the rows, and fifteen inches between the hills. It was dressed with ashes when it made its appearance above ground. On the 10th June commenced weeding and thinning, leaving from two to four of the best spears in each hill, the whole averaging about three spears in a hill. After this I ashed it again, using in all about ten bushels of good unleached house ashes. On the 10th of July commenced hoeing, and at the same time took off all the succors—put no more earth about the hills than we took from them, but carefully cleaned out all the weeds from the hills. The seed was prepared by simply wetting it with warm water, and rolling it in plaster.

Harvesting.—The corn was cut up the 18th September, at the ground, and shocked in small shocks; and on the 9th of October it was housed and husked, and subsequently threshed and measured.

Product.—Ninety-nine bushels of first rate corn, without even a nubbin of soft or poor grain, owing to the fact, probably, that there was no suckers on which to grow them.

EXPENSES.

Ploughing one day and board,	$2 00
Rolling and harrowing one day,	2 00
Seed and plaster,	1 25
Planting two days, at 75 cents,	1 50
Five days hoeing and board,	3 75
Horse and hand with cultivator two days,	2 00
Cutting up and shocking two days, 75 cents,	1 50
Husking and housing ten days, 75 cents,	7 50
Ten bushels ashes, at 25 cents,	2 50
Labor on ruta baga, (sown among the corn,)	1 50
Interest on land, at $50 per acre,	3 50

Threshing corn three days,		2 25
35 loads manure, at 25 cents,	$8 75	
Carting and spreading do.	8 75	
	17 50	
Deducting two-thirds for succeediug crops in rotation,	11 67	
		5 83
Total charges,		$37 80

VALUE OF PRODUCE.

70 bushels seed corn, (selling price,) at $2,	$140 00
29 do. sound do. (do.) at $1,25,	36 25
4 loads stalks, at $2.50,	10 00
20 bushels ruta baga, at 25 cents,	5 00
1 load pumpkins,	1 00
	$192 25
Deduct expenses,	37 08
Nett profits,	$155 17

H. HOPKINS.

I hereby certify, that I am personally acquainted with the above named Henry Hopkins, believe him to be a person of veracity, and that the truth of his statement may be depended on. A. MARK, *Jus. Peace.*

Laurens, Dec. 1, 1837.

Cultivation of Indian Corn.

Although it is quite early to begin to talk about cultivating any thing, I take the liberty of offering you a few suggestions upon the cultivation of Indian Corn, which may not come amiss.—The corn crop for a few years past has been very uncertain, owing to the extraordinary cold and wet summers. It has been found that the old varieties, unless protected by "*old fashioned summers,*" will not repay the anxious care of the husbandman; and some other varieties of quicker growth must be substituted in their place. One of these varieties is the Early Golden Sioux Corn; it is the same or very much like the kinds which have been celebrated in the newspapers as being "remarkably early and productive," under the names of Early Phinney, Dutton, Clark, and some other synonyms; it is found to be the most certain and desirable variety now known. It comes to maturity a full fortnight and nearly three weeks earlier than any other variety. The Hon. S. Lathrop, of West Springfield, has harvested it the 30th of Sept. Another variety is the Early Canadian, eight rowed corn, small ear and very small cob, with the grain firm and hard. This is also a very desirable sort.

Great advantage may be derived by selecting seed from stalks bearing two or more ears.—The following directions for selecting seed corn, are from Willich's Domestic Encyclopedia:—"When the first ears are ripe enough for seed, gather a sufficient quantity for early corn, or replanting, and at the same time you would wish corn to be ripe generally, gather a sufficient quantity for planting next year, having particular care to take it from stalks which are large at the bottom, of regular taper, not over tall, the ears set low, and containing the greatest number of good sizeable grains of the best quality; let it dry speedily, and from the corn, gathered as last described, plant your main crop, and if any hills should be missing, replant from the first gathered, which will cause the crop to ripen more regularly than is common; this is a great benefit." The above is not exactly in season, though it contains instruction which should be treasured up by every farmer, to be used in time of need. Those who have practised the method are satisfied that it increases the quality and quantity of the crop beyond expectation.

Wood ashes is a very powerful stimulant to corn. The effect of a pint of ashes upon a hill is very great, causing it to yield much more than one to which it is not applied. The importance, then, of saving wood ashes is most apparent.—Corn, again, manured with unleached ashes in the hill, will be less annoyed by the cut-worm than one to which other manure has been applied. The best soils for corn are the sandy, sandy loam, gravelly loam, and rich red, or dark colored earths, which have but little clay to them. A clover sod, well turned over, makes the best preparation for the crop.

I have rather hastily made these remarks, feeling the importance of attending to the selection of *good* seed corn in season, and with the hope that those who have any that is early and proper for seed, will make it known, and also any facts respecting its cultivation which will be serviceable to the community.—*Yankee Farmer.*

Heating Rooms by Steam and by Warm Air.

In looking over some memorandum which we have had by us for some time, we find the following statement. It may be that we have published it before; whether we have or not the facts are valuable. In conversation with the highly intelligent agent of York Manufacturing Company, Mr. Bachelder, he stated that the mills of the Company, in Saco, are heated by steam. An upright boiler is placed below containing the fire within it. Tubes of sheet copper rise to the top and traverse the rooms. There are five stories or five rooms warmed in this way, each room being 43 feet by 140. The tube is four inches in diameter in all the rooms but the lower, where it is 6 inches. By accurate experiment, he finds that it takes 1200 lbs. of Pennsylvania coal for 24 hours to keep up a temperature of 60 degrees. In Lowell it took 1800 lbs. per 24 hours to heat a similar amount of space or room with dry air.—*Maine Far.*

PEAT.

Peat is of vegetable origin, and is formed in cold, moist situations, where vegetables may be decomposed without putrefaction. Hence, in the torrid zone it is never found; but as we advance north it occurs, and on the borders of frigid regions it is found in great abundance; a cold humid atmosphere being peculiarly favorable to its generation.

Peat is composed of aquatic plants, such as reeds, rushes, etc., but a species of moss (Spagnum Plaustre) is generally found more abundant than any of the former class; it having the property of sprouting, and continuing to grow, while its roots are decaying.

In some peat, (as is the case with our own,) plants are found with their organization so distinct that we can even determine their species. As is said in one of the Bridgewater Treatises "that we may almost seize nature in the act of making coal before the process is completed," so it may be said in regard to peat; for the rude fragments of undecomposed plants we trace the process to perfectly formed peat, where a complete decomposition has taken place; and from thence to anthracite.

There is, however, a striking difference between the periods in which the vegetable depositions that form anthracite and peat took place.

Geologists agree in assigning the epoch to be antediluvian in which the vegetable deposits that form coal were made; and they also conclude that the temperature of the earth was much higher than at present; for fossil ferns are found in coal formations, of the astonishing length of fifty feet, and other plants bear the same ratio. Now plants of this species in the torrid zone are found to approach this size at the present time; but coal is found in the temperate and fridgid zones—consequently we are led to suppose that a higher temperature once existed in those regions.

But peat is of recent origin, as may be shown by the following facts. In Hatfield, England, as in many other places in Great Britain, Roman roads have been discovered eight feet below the peat; and their arms, axes, coins, etc. have been found in the same situation, showing that these peat bogs have been formed since the invasion of Cæsar. Nor can any traces of the great forests spoken of by this General in his Commentaries be discovered, except by their fragments which are found in peat. And De Lue has ascertained that the very positions of the forests spoken of by Cæsar, viz. Hercinia, Semana, Ardenes, and others, are now occupied by peat-bogs.

As orders were given by Servius and other Roman Emperors to destroy all the forests in the conquered provinces, it is evident why the remnants of these once majestic tracts are found imbedded in peat: for when they were prostrated, their trunks, limbs, and leaves would check a free drainage of the water falling from the atmosphere, and also prevent in some measure its evaporation. Consequently a decomposition of the foliage and branches of the trees would commence—aquatic plants would spring up, and decaying, add to the mass which is found in time completely to envelope the pristine forests.

An occurrence of the recent formation of peat took place in Roos-shire, Eng. During a violent storm a forest was overthrown, and in fifty years the people dug peat, from a mass occasioned by this overthrow.

On examing some of the peat formations which are so extensively scattered over our island, we have observed large stumps, trunks, and limbs of trees completely immured in peat. There seems to have been a deposition of shrubs, flags, and other plants which we find but partially decomposed.

After this formation had taken place, forests sprang up, which have been cut down, probably within a century, and their fragments have aided in forming our peat bogs, which are now discovered from one to fourteen feet in depth. Without doubt most of our peat formations have taken place since the pristine forests were destroyed, and are comparatively of recent origin. We will further state what seems a curious, but is a well ascertained fact, that not only here, but wherever the peat is discovered, it is generally found to occupy the position of ancient forests. For in most bogs, stumps, and trunks of trees are found surrounded by peat while their roots remain in their natural position, immured in clay or some other soil.

In some countries peat masses are found of great extent. One mentioned by Dr. Boate on the Shannon, was fifty miles; and Blavier speaks of one at the mouth of the Loire, more than fifty leagues in circumference.

The texture of peat is such that it absorbs large quantities of water, and it has often happened when bogs were very much swollen that they have burst and deluged the surrounding country with their contents. We are informed by Deguer that the remains of ships, nautical instruments, and oars have been found in many of the Dutch mosses; and Gerard in his history of the valley of Somme mentions that in the lowest tier of that moss a boat was found loaded with bricks, proving that these morasses were at one period navigable lakes, and arms of the sea, as were also many on the coast of Picardy, Ireland, and Friesland, from which soda and salt are procured. "The canoes, stone hatches, and stone arrow heads found in peat in different parts of Great Britain, lead to similar conclusions."

One more fact in relation to peat is worthy of our notice. It is the preservation of animal substances which have been buried in it. A great many instances are recorded which go to prove this property; a few however will only be mentioned.

"In June, 1717, the body of a woman was found six feet deep, in a peat moor in the isle of Axholin, in Lincolnshire, England. The antique sandals on her feet afforded evidence of her having been buried for many ages; yet her nails, hair, and skin are described as having shown hardly any marks of decay. In the Philosophical transactions, we find an example recorded of the bodies of two persons having been buried in moist peat, in Derbyshire, in 1674, about a yard deep, which were examined twenty-eight years and nine months afterwards—the color of their skin was fair and natural, their flesh soft as that of persons newly dead." At the battle of Solway in the time of Henry VII. (1542,) when the Scotch army commanded by Oliver Sinclair was routed, an unfortunate troop of horse driven by their fears, plunged into Solway morass, which instantly closed upon them. The tale was traditional, but it is now authenticated; a man and horse in complete armor having been found by peat diggers, in the place where it was always supposed the event had happened. The skeleton of each was well preserved, and the different parts of the armor easily distinguished.—*Obs. on Picturesque Beauty,* 1772.

This peculiar property in Peat is probably owing to the acids, gums, and resins, which issue from decayed vegetable matter; and it may partly arise from the charred state of some of the fragments, for it is well known "that charcoal is a powerful antiseptic."—*Nantucket Inquirer.*

DRAINING UPLANDS.

The subject of draining lands is one which has not exercised the thoughts or the faculties of the farmers of Maine to any great extent. Our state being comparatively new, and the lands in many parts having been recently cleared of the forest growth, the various arts necessary to be used on soils which have become exhausted of their primitive fertility, have never been required or put in practice. It is time, however, for many of our farmers to look about them, and resort to the practices which older countries have found necessary in order to restore or keep up the strength of the soil, and to ensure a continuance, of a return of those principles which are so essential to a profitable crop.

We have called the attention of our readers to the subject of draining bogs and swamps, and we shall recur to it from time to time, whenever we may chance to have any thing to communicate upon the subject, which may be of service in directing the operation or rousing to action.

The draining of uplands is a subject which has received little or no attention at all, and yet it is one of great importance in many parts of the state. Almost every one knows of land which, although no water may be actually seen by the eye flowing over or standing upon it, is nevertheless *wet* and *heavy*, as it is called, even so much on this order that it is difficult of cultivation, and useful for little else than grass land. Now in older countries this defect is remedied by draining. These drains are made in different ways; most generally by digging trenches, and filling the bottom to a certain height with coarse stones, and these covered with soil. As a general rule, the covering is sufficiently deep to allow the plough to run over it and crops to grow upon, presenting to the eye a smooth and level appearance—but in fact allowing a space, as a reservoir, for containing the water, or a channel for conveying it away. Although this species of improvement may in many places be expensive, yet the advantages which are derived from it are oftentimes so great, that it is considered a good investment; inasmuch as it causes moist and heavy land to become sufficiently dry for working at the proper season of the year, and enabling the cultivator to grow upon it crops which could not be grown if it remained in its natural state. As some of the plans devised and put into practice require cuts or diagrams to illustrate them—we cannot at this moment give any, but hope to be able at some future time to give them, when we shall again recur to the subject, and press it upon the consideration of our farmers.—*Maine Far.*

COMMUNICATIONS.

[Below we give a communication from our able friend and correspondent '*Holkham*,' giving his opinions on the subject of hard-pan soils, on the management of which we gave a paper in a late No. of the Farmer, (page 394 of vol. 7th, and in the January No. of the current volume of the Monthly.) It will be perceived that his opinion as to the best method of cultivation is somewhat different from those expressed in that article; though we hope he will enter more fully in the succeeding papers, which he has given us reason to hope he will furnish, into the best methods of "changing the nature" of such lands, and the expense per acre of doing it by 'lime, chalk, sand,' or any certain mode that will convert *hard-pan* into *soil*, and render it friable and productive. We shall in this place merely add a few notes which seem to be required by the nature of the communication. We have taken the liberty of changing the phraseology in two or three instances, for reasons which we think Holkham will understand and appreciate; and we hope such of our readers as have the article referred to, will examine it in connexion with the remarks of our correspondent.]

Management of "Hard-pan" Soils.

We have read with some degree of personal interest, the article upon the management of hard-pan soils, in the January No. of the Monthly Farmer; and while we agree with many of the suggestions of that paper, we cannot but believe that there is in the public mind a great dearth of information upon this subject, in which a large portion of the inhabitants of the northern states possess such a deep and abiding interest. That there is a deep rooted and unfounded prejudice (*a*) against every thing that bears the name, the article in question, we think, furnishes intrinsic evidence; and is therefore proportionally, though doubtless, unintentionally, injurious to very extensive districts of our common country.

The error of the article appears to lie in the position, that the pan is either on the surface, or approaches so near as not only to hold the water, but to impede the operations of agriculture. If this mistake arises from an examination of the chemical analysis of these soils, we must admit there is some foundation for it; but it is by no means making an adequate allowance for the beneficial influence of frost and solar heat, and the operations of cultivation: the error has led to the extraordinary conclusion, that the very top of the ground is an "indurated clay!" (*b*) that it is unfit for the cultivation of wheat; that timothy and fibrous rooted grasses should be substituted for clover and tap-rooted vegetables; that the cultivation of ruta baga, carrots, potatoes, &c. will not succeed to any extent without uncommon labor and care; and finally, that the unhappy owners, after being *thus deprived* of almost every vegetable calculated to render grazing and dairying profitable, are only to be permitted the enjoyment of the consoling reflection, that their business must be that of emasculated (*c*) shepherds and herdsmen; to which occupation, instead of ploughing and cropping, they are destined by the unalterable edicts of nature and necessity.

We should perhaps be offering a more methodical argument to our readers, if we could define with any tolerable degree of precision, the meaning of "hard-pan lands." The term is not used in British Husbandry, at least so far as our reading has extended, (*d*) although many parts of the counties of Sussex and Surrey, and parts of the other midland counties, are so very tenacious of water as to retain it until carried off by evaporation; and there are some districts so exceedingly spongy and wet as to offer no resistance whatever to the foot, which immediately sinks until arrested by the subsoil. If these are accurate samples of the hard-pan lands of this country, we should indeed despair, because the whole system recommended to us in that article of the Farmer, particularly surface and under-draining, has been repeatedly tried in those counties with very indifferent success, and the agricultural reports in some instances represent it as a total failure. Farmers there have been compelled by stern necessity to alter the whole texture of the soil, and have done it effectually by the application of long manure mixed with lime, chalk, sand, and other correctives; and from all the facts we have been able to collect, in the course of a diligent application of several years of a *not* inactive life, we think we may fairly draw the conclusion, that there is as great a diversity of soils among what are usually denominated hard-pan lands in this country, as among lands that are called sandy, limestone, or any other class whatever; and their fertility is quite as various; the degree of fertility depending not only upon the constituents of the soil and subsoil, but upon the depth at which the latter is placed below the surface. We have ascertained by actual experiment, that the absorbent power in the surface or vegetable mould varies from three to nine degrees of the thermometer in a single hour, when the earth has been taken from adjoining fields. Evaporation is equally different, and the circumstances of location or exposure make an essential change. The soil on declivities requires to be more absorbent than in vallies or in extensive level districts; and on our own farm, and in the same field, we have constantly to observe regular, as well as irregular, gradations from light sandy loams to the heaviest and stiffest clays. On one part of a field appropriated for a burial ground, the hard-pan is seldom found in digging graves, while at the distance of half a mile it approaches within a few inches of the surface.—In some instances, the latter fields produce much superior crops. All these instances, we have not the least doubt, can be readily accounted for upon the simplest principles of agricultural chemistry. When the hard-pan contains the largest proportion of calcareous materials, the nearer it approaches the surface the better. When the latter contains the most, we should be glad to have the hard-pan deep; when the surface is almost exclusively sand, as we have frequently seen it north of the Mohawk, we should be glad to have the hard-pan, if it was even "indurated clay," near enough to mix with it by trench ploughing; and our wishes would be more urgent, if the "hard-pan" approached, *as it frequently* does in other places, the marls of Ulster and Orange counties. The lands based on a subsoil called "hard-pan," in Herkimer county, are as different from the lands in the beech woods of Pennsylvania, as the soil of Western New-York is from that of Accomac county in Virginia.

After these introductory remarks, it will not perhaps *surprise* our readers, though it may fail to convince them, if we inform them, that some of the most fertile and best cultivated land in this and the adjoining states, are on a subsoil of hard-pan, lying at a greater or less distance from the surface. If we should assume the fact, that one-half the lands from the Atlantic to the Mississippi, between the 41st and 43d degrees of N. latitude, were of this description, we should think ourselves not near so wide of the mark, as the position of the article in question, that so large a portion of our country is unfit for the cultivation of root crops and clover. We have good reason to know that most of the lands within the above described boundaries have been placed under the ban of this prejudice; and while clay soils generally are admitted by most of our agricultural journals to be among the best of wheat lands, there seems to be a very general impression that hard-pan lands are not adapted to its production.—We are perfectly aware of the unproductiveness of these lands in wheat, whenever there is a deficiency of calcareous matter; but when the substratum has been in any considerable degree combined with this essential ingredient, or when lime has been applied to the surface with intelligent perseverance, and in quantities proportioned to the deficiency, the result has indicated beyond dispute, that it would correct the evil; provided always, that the land will produce other crops. What, permit us to ask, is the reason why lands that are lying upon a substratum of solid rock, as they are in Ireland, and which approaches very near the surface, should be the most fertile on the globe, whilst those that are upon a subsoil of hard clay should be considered the most unproductive. We remember a conversation held some years since with our much esteemed and intelligent friend, James Ronaldson, of Philadelphia, whose devotion to the cause of agriculture, has rendered him favorably known to his adopted country, upon the cultivation of wheat on hard-pan lands, in which we were informed that the same difficulty existed within the range of his memory, in some of the best cultivated districts of Scotland, where the soil was upon a solid rock, and that the difficulty had been remedied by the application of lime.

We have never had the opportunity of a personal examination of the subsoil in the eastern part of Cayuga and Tompkins counties; but we have seen in sailing along the margin of the Lake, stratas of rock of many miles in extent, lying immediately under the surface, and utterly impenetrable to water—we have seen the surface for miles together covered with those little mounds called cradle-knolls; infallible indications of what lay beneath. Will the Editor of the Farmer undertake to say that these lands are not good wheat lands; that they are unfit for clover, ruta baga, and other root crops? (*e*)

Looseness or (as it is commonly called) lightness, and tenacity or cohesion, respectively contribute, under different circumstances, to make lands sterile or fertile, and they each operate for good or for evil, as the subsoil upon which they rest has a natural fitness to counteract their injurious or promote their beneficial operations. When the upper surface is a loose, dark, vegetable mould, which is generally the case in most of our new cleared lands, from the deposit of vegetable putrefactive materials, *and which it can almost always be made by a judicious course of cultivation and improvement*, we consider the hard-pan, at the distance of about twenty inches or two feet from the surface, instead of being a curse, one of the greatest blessings that the bounty of nature has ever bestowed for the encouragement of human industry—it supplies the loss arising from too much evaporation, and from too great a consumption of moisture—it saves and retains near the roots, all the manures and soluble matters required for the growth of vegetables; and it prevents all those unsightly and destructive gullies that intersect so many lands to the south. We were exceedingly gratified by the remark of a very industrious resident of a hard-pan farm, which came to our ears a few days since; when told the land he was about to purchase was not rich, he replied, "it is my business to make it so."

But says the paper under consideration, "the difficulty in cropping hard-pan lands, when properly freed from surface water, lies in the hardness and tenacity of the soil, and the quickness with which".... "it becomes compact and impenetrable to the roots of plants after it has been loosened by the plough;" and it goes from thence to the conclusion, that grasses "that have thick fibrous roots will succeed better than the tap-rooted; timothy, orchard and red top should be preferred to clover"—"the cultivation of roots will not succeed, unless with much labor and care, and finally we must leave cropping for grazing." Now our opinion is, that if the land is remarkable for its tenacity, there is nothing better calculated to counteract it than the cultivation of clover and tap-rooted vegetables—grazing and dairying *will not succeed* without them, and sheep without (much) wool, is the result of sheep without clover, ruta baga, or grain. Such lands should never be allowed to remain long in grass; its cohesive tendencies are thereby increased instead of being diminished, and we are convinced the introduction of timothy and red top on such soils, would be positively injurious. These grasses 'bind out' as the farmers say, and increase the cohesive tendency, until it is almost impossible to plough it—it must be ploughed—while, to pursue the same homely truism, the clover, and all other bulbous and tap-rooted vegetables, "keep it loose," so that any experienced ploughman can readily break it up with a single team; and when the cohesive tendency is thus diminished, it is a very easy matter to keep it in a friable, and consequently productive state by cropping and alternating with clover.

We find ourselves proceeding beyond the limits of an

essay, and will therefore terminate for the present; although the subject is by no means exhausted, and what we have written requires elucidation. If our remarks are kindly (*f*) received, they may possibly be extended; and we earnestly hope that if we have been in error we may be corrected by our brethren. Grateful as we are to that GOOD BEING, whose bounty has imparted to us a reasoning intellect, we feel ourselves proportionably indebted to that man whose understanding imparts one ray of knowledge to ours; and we should feel ourselves deficient in understanding, as well as in gratitude, if we did not add that knowledge thus imparted, enlarges and amends the heart.

HOLKHAM.

NOTES.

(*a*) If *we* could be accused of prejudice in this case, it would naturally be in favor of, and not against, such lands, as in common with our correspondent we happen to have a "personal interest" in the value and cultivation of soils of this class.

(*b*) From the marked notice our correspondent pays to these words, we are justified in inferring that he considers the term "indurated clay" as new, if not unauthorised. If he will take the trouble to look into any modern work on geology, say for instance Hitchcock's Geological Report, he will there find the term in common use. In the Ency. Americana, article Clay, is the following: "Some of the principal varieties of clay, are *indurated clay*, or *clay stone*, which is clay in its highest state of induration. It is soft, but not easily diffused in water, and does not form with it a ductile paste." And further—if we could have the pleasure of meeting Holkham, we could exhibit pieces of indurated clay, taken from within a few inches of the surface, answering precisely to the above description.

(*c*) The anxiety of our correspondent to free his hard-pan soil from "prejudice," has in this instance led to the adoption of language which, we think, neither our article, or the facts of the case, can hardly warrant. We imagine that the hardy yeomanry of New England, who have grown rich, and are becoming richer, on the production of wool and the proceeds of the dairy, but with very little cropping, are the last class of people on earth to whom this epithet of Holkham could be applied with propriety or impunity; and the same remark will apply to the dairy districts of Herkimer and Oneida, in this state.

(*d*) If Holkham will turn to the "Farmers' Magazine," published in London, he will find at page 14 of the number for January, 1837, the following passage in a letter from E. Stracey, Norfolk, to the Editor: "I beg to state, that above four years since I invented a plough for breaking up the hard-pan, (as it is called,) which lies a few inches from the surface of a great part of our Norfolk lands, and which is apparently composed of cemented gravel, containing a considerable quantity of iron, and so hard as even to resist several blows of a pickaxe." The use of this term in modern English publications is far from uncommon.

(*e*) Certainly not. We have had the pleasure, not only of observing the soils in a considerable part of the district alluded to, but also of witnessing the improved state of agriculture, and the skill shown in conducting it, particularly near the lakes of Cayuga and Seneca. We noticed too, that though a considerable part of this district was what would by some be termed heavy clay, yet so thoroughly was it filled with lime and siliceous matter, that though appearing in clods when first ploughed, it soon fell to pieces when exposed to atmospheric influence, in friability approaching calcareous marl, constituting one of the finest wheat soils in the world, and where the clay did not exceed the due proportions, excellent for roots. Deprive this rich soil of its calcareous and siliceous matter, or even reduce them very considerably, and would the increased tenacity of the clay be favorable to roots, or even to wheat? Every person who has cultivated clay soils can answer. If the rock which forms so large a part of the shores of the Cayuga and Seneca lakes, and which evidently overspreads a large part of the country, is so "utterly impervious" to water as our correspondent seems to suppose, will he have the goodness to inform us whence the waters that constitute the beautiful and copious springs near Aurora, and which are so invaluable for manufacturing purposes, are derived?

(*f*) We can assure Holkham that we are not at all displeased with the frankness of his communication; and while the pages of the Genesee Farmer will be inflexibly closed against any thing that savors of contention or personality, they will always be open to free, temperate discussion. Our great desire is the discovery of *truth;*—the application of discovered truths to the advancement of agriculture, our aim. The field is a broad one, and the reflections and experience of any one disposed to be a co-laborer with us in this cause, are always welcome to our columns.

HOOF-AIL IN CATTLE.

This disease is known to most of the readers of the Farmer, and many no doubt have experienced the loss of some valuable stock by it. In examining and inquiring for a cure of any evil, whether moral or physical, if we can find out the producing cause, it is much easier to apply an appropriate cure. To do this in relation to the disease in question, it will be necessary carefully to examine the circumstances, as far as may be, under which it most commonly makes its appearance. As far as my information goes, it takes place in cattle which are not exercised, either by labor or in any other way, and I would ask M. R. of Henrietta, whether his ox which was attacked by it had not lain still, or at least not been worked for some time.

Another attendant circumstance is, I believe, filthiness. Cattle are suffered to stand in a dirty stable without clean litter, or to wallow through a muddy barn-yard, and under these circumstances it is no wonder if they should be attacked by some disease. Cleanliness and exercise are as necessary to the health of animals as of man. Without professing any medical skill, I am inclined to think that hoof-ail is generally occasioned either by an impure state of the blood, or for want of its healthy and natural circulation through the system. We have had diseases of this nature appear among our cattle at different times, more particularly during the winter season, and have found great advantage in driving them three quarters of a mile and back again every day, and have known the same favorable results obtained by some others who have pursued a similar course.

A man in Massachusetts undertook to winter about forty calves, which were attacked by disease and began to die off, and he was so much discouraged that he took his calves and started off, determined to sell them for what he could get before the remainder died; but after driving them two days, and finding no purchaser, he returned home with them, and by this time they were completely cured, and he lost no more.

The general health of cattle produced by exercise, is sufficient to pay a man for driving them a mile or two every day. The limbs of animals as well as men were made for use, and whenever the laws of nature are violated, the penalty must be paid. Cattle frequently suffer much, (in the winter season particularly,) for want of water, which occasions a fever, and disease is frequently the consequence. Hence, according to my experience, and best information, we arrive at the conclusion, that regular exercise, cleanliness, and plenty of good water, are necessary to the health of our cattle as well as ourselves, and no one of them should be neglected.

For further particulars relative to watering cattle in the winter, I would refer the reader to Genesee Farmer, vol. 6, pages 3 and 109. J. C. HATHAWAY.

P. S. It is given as the opinion of Isaac Hathaway, who has had some experience in raising cattle, that if the above principles were rigidly practiced, the State of New York would not lose annually one hundred dollars worth of cattle by the hoof-ail.

Farmington, 2 mo. 5, 1838.

HOOF-AIL.

MR. TUCKER—From perusing my fourth number of the current volume of the Genesee Farmer, I discover that the above disease is prevailing among the stock of M. R. of Henrietta.

I have had some experience in this disease. Commencing in the early part of December, 1837, it for the first time that I ever saw any thing of the kind, presented itself among my cows. The first symptoms were a kicking and uneasiness in the hind feet. They would commence swelling in the ancle, the blood would soon cease to circulate, and the feet would eventually rot off.

I applied to a number of farriers for the cause and the cure. They ascribe it to the smut of the seed of the June grass, and as to the cure they made various applications to no effect.

I have reason to believe, that I saved some of their feet by sawing the end of the hoof off sufficient to produce blood, in the first stage of the disease. I however lost a number of my best cows and young cattle.

I have now some six or eight head of cattle laboring under this complaint. The course I now pursue with them, is to make an incision in the hind part of the ankle, half way between the dew-claw and the hoof, where will be found a round substance of flesh of the size of the common hazle nut, which is to be removed, and the orifice to be filled with equal parts of verdigris, burnt alum and salt, and the ankle bound up with a tarred bandage.

On the whole, I think that most of my cattle will recover under the above prescription, but it is not infallible.

I will thank you for all the information you may obtain from your numerous correspondents on the above subject.

Very respectfully yours, L. M***s.

Le Roy, Feb. 6, 1838.

RUTA BAGA, SPRING WHEAT, &c.

MR. TUCKER—In the fall of 1836-7, I pitted my ruta bagas as follows: Dug a pit 3 feet deep and the same in width; filled in with turneps—piled them in a roof shape above ground, full 3½ feet—continued my trench in length 36 feet—thatched each 12 feet as I proceeded with straw, halved together in the form of rafters—4 pair of these short rafters over each 12 feet of the straw—began with nailing on a board at the bottom, letting each board as I proceeded towards the top lap over the lower one, say 3 inches, in the form of clapboards, to the peak—let them remain till quite cold, say till the ground stiffens, not so much but it will yield to a spade; then fill the ends more with straw—fill one end up six inches with soil, and the boards over them say 3 inches. The end designed for entrance will want filling with a double thickness of straw bundles. When the weather becomes permanently cold, cover the earth over the roof 2 inches with horse manure, and all is done. You can enter at any time the end by removing the bundles of straw. After taking what is needed for the time, return your straw and all is safe. In this way they have kept better than in my cellar or by pitting with earth.

The worth of these roots is not at present, in this section, underrated. In 1836, in this town, by much persuasion, I got my neighbors to use 8 lbs. ruta baga seed In 1837, they used 75 lbs. From the call for seed, and the present feeling on this part of husbandry, I predict that full 200 pounds of the above seed will be used in this section or town the coming season. I leave you to judge, Mr. Editor, whether the reading of the Genesee Farmer has had any agency in effecting the above change.

I send you eleven more subscribers, making 46 at this office, and I think I shall obtain some 20 names more soon for the Monthly. It takes well. The aspect of farming in our town is fast becoming altered for the better; and I look forward with high expectation, from the eagerness with which agricultural periodicals are sought after and read, that ere three years are passed, our town, nay, our county, will double, if not thribble, the products of its farms.

I last spring, for the first time, sowed some spring wheat. Two acres on an out farm, under unfavorable circumstances, yielded fifty-one bushels clean seed wheat. I sowed at my own homestead, six rods short of an acre. We took from it five hundred sheaves of wheat, thirty of

which, thrashed by flails last fall, yielded two bushels and twelve quarts. Its weight per bushel was 68 lbs. You will see I obtained about forty bushels from less than an acre. I sowed two bushels seed, soaked in brine twelve hours, and rolled in fresh slacked lime before sowing. My wheat in appearance resembles velvet bearded winter wheat. I would sell fifty bushels if applied for before sold out here, at $2 per bushel, the price I paid for seed.

Newark, Feb. 3, 1838. C. S. Button.

EXPERIMENTS IN CONDUCTING WATER.

Mr. L. Tucker—It is a very stormy day, and I have spent what time I have had to spare, except doing my chores and taking care of my stock, in perusing your valuable paper of the 13th of January instant. Among other communications I observed a few inquiries, and the first was respecting pump logs, from a gentleman in Cortlandville, styling himself South-hill, who, I hope, the next inquiry that he wants answered, will sign his real name to it; and if your contributors would all do so, we should all know who each other are, and where we could find them. Now, Mr. South-hill, after these few observations, I shall proceed to answer your inquiries respecting pump logs, or logs to conduct water in; and I shall go no further on the subject than my own experience dictates; and if you are the gentleman I suppose you to be, you must be well acquainted with the ground where I tried my experiments, and for the benefit of yourself and others, you must allow me to go into a considerable of a detailed account on the subject. I shall state the different kinds of timber that I have used, and the kind of soil that I laid them in, and as near as possible the time they lasted. The first that was laid on my farm, was in the year 1801. The water was taken from a small creek formed by springs on the side hill above where Capt. Moses Edmond since lived. The water was brought in split basswood from 6 to 8 inches square, green timber. They were laid in the creek part way, and covered with water and mud; the remainder of the way in the bank adjoining, which was a loose gravelly soil. Those laid in the gravelly soil lasted something like five or six years, and the works were then given up. I afterwards cleared the land, and about twenty years after the logs were laid down I ploughed the land myself; and where the logs laid in the creek among the mud and clay, they were ploughed out, and many of them were quite sound, and I think they would have lasted many years longer if they had been still kept covered with the same materials. Those in the gravel appeared to be entirely consumed, as I found nothing of them. So much for that experiment with basswood.

I shall now state my own experience in bringing water in logs to my house and barn. In the year 1806, I built me a frame house, and brought water to it about 50 rods. I took the water from a spring in my orchard above the turnpike road; below the spring was wet clay land, six or eight rods, and so far I laid in green split bass logs; when I came to the dry gravelly land, I commenced with split white pine logs, part timber that had been seasoned nine months. As I had not pine enough to complete the job, I next put in a few cherry logs, that were also split timber and green. I then finished the concern with a few hemlock, green, round logs, say six or eight inches in diameter. The land was all of a loose gravelly nature, except where I laid the basswood logs. It did very well five or six years, and then stopt. I examined the logs, and found the cherry, some of them rotten and good for nothing, while the pine, hemlock and bass were sound and good; but as the spring was small, and sometimes almost dry, I abandoned them, but had frequent opportunities afterwards of examining the different kinds of logs while ploughing my land for many years afterwards. According to my best recollection, the pine would hold water from 12 to 15 years, the hemlock from 10 to 12 years, and after they were rotten the bass was quite sound that was covered with clay and kept continually wet with the water from the springs. As for chestnut, I have not tried them in this State, but have seen them tried in Connecticut on my father's farm. Round logs were used, and they lasted from 12 to 20 years, according to the wetness of the soil that they were placed in, for wet muck or clay land will preserve logs of any kind much longer than dry gravelly or slate land, although it is generally considered best to season our fence posts before we set them; and I should choose to have my water logs heart timber and well seasoned, where I laid them in dry or gravelly land I have also carried water in round hemlock logs through slate and gravel to my distillery, but the gravel destroys them in 10 or 12 years. So much for my long experience with logs to carry water in.

I will now tell you my next experiment to carry water to my house, distillery and barn. After a great deal of expense and vexation with my water logs, I heard of lead pipes, warranted to answer every purpose. I accordingly went to Paris, Oneida county, and engaged a man to bring the water to my house and other buildings in lead, 75 rods, from a spring further back on the hill. The bore of the pipe was three-fourths inch. It did very well for a time, but when the ground came to settle, being full of round stone, they mashed the pipe flat, the lead being too thin to stand the pressure with so large a bore. I then went after my workman, who warranted the pipes to do well; but before that time he had found the error in making the bore so large with common sheet lead. He took them out, and put in pipes with a half inch bore, and I found it to afford water enough for my tavern stand, distillery to work eight bushels of grain per day, and for to water fifty head of cattle, twelve horses, and then a good deal to waste. I visited the old farm last June, and the water run well after the pipes had laid twelve years.

There is one more difficulty respecting logs used to conduct water, and that is, they are apt to grow up full of small fibrous roots, especially if there is any trees standing near the logs. I have had my logs grow completely full in places, so as entirely to stop the water.

I have heard of a plan of late to carry water in pipes made of water lime, which is said to answer a good purpose, and before I should use logs I should want to ascertain the cost and utility of that kind of pipe.

You say, sir, that your spring is larger than a lead pipe can contain. I see no inconvenience in that, so long as your pipe contains all the water you want to use, and I am sure it will, unless you want to work some machinery with it; but if I was obliged to use any more logs, I should bed them all in good soft clay mortar, if the soil was gravel or dry loam. Samuel Griggs.

Griggsport, January 30, 1838.

THE MORUS MULTICAULIS.

Copy of a letter from Jos. W. Atkinson, *Esq. of North Carolina, to* Wm. Prince & Sons, *Proprietors of the Nurseries at Flushing, dated January* 11*th*, 1838:

Gentlemen—Yours of 26th December, requesting me to make you acquainted with my success with the Morus multicaulis is before me.

The 2000 plants purchased from you in November, 1836, were set out in April, 1837, in ordinary soil, from which we have about 10,000 plants of from five to six feet high. We have another nursery, the soil of which is richer than the one we set the plants in we purchased from you. The plants in this nursery are from seven to nine feet high. Our trees are standing in the nurseries without any protection, and have not received any injury from the frost, with the exception of some few buds near the ends of the limbs, which did not have time to ripen. Experience has established the following facts touching the growing of the Morus multicaulis in North Carolina. That either from layers or cuttings they will reach a height of from five to nine feet in one summer, agreeable to the quality of the soil. That it is not necessary to move them from the nursery, nor to protect them in any way during winter. That those planted in a richer soil may be slightly injured by the frost, in consequence of their growing later in the fall; while those planted in a poorer soil will mature sooner and receive no injury. That any person desirous of raising the Morus multicaulis for the purpose of feeding the silk worm, may from a small quantity of cuttings, produce any quantity they may stand in need of in a few years, with as little attention as they could raise a crop of corn.

From the New England Farmer.

Indian Wheat.

This is the name applied to a grain, which recently has been brought into notice by its extraordinary productiveness, and of which as inquires are constantly made of us, we propose to give what information we possess.

The plant referred to is, without question, the Tartarian Buck Wheat; or as it is called by others, the Siberian Buckwheat. It belongs to the tribe of the *Polygonum* from its many sides; and its name Buck Wheat is supposed to be a corruption of Beech Wheat from the resemblance of its seeds to the Beech Mast. The cultivation of this particular kind of Buck Wheat is not new in this country nor in this state. The recent excitement in regard to it seems to have been accidental; its value perhaps being more particularly brought into view by the failure of common Wheat through the grain worm and by rust; and the loss of the Indian Corn by the inclemency of the seasons. This particular kind has been several years cultivated in Pennsylvania; and a beautiful sample of it was brought to us from the north-western parts of that state three years since; but without any name by which to designate it, or any account of its cultivation or its yield. It has been likewise for several years cultivated successfully in Hampshire County in this State. It was said to have been introduced into Germany a century ago; and within a few years has been cultivated in Great Britain. It is supposed to possess considerable advantages over the kind that has been usually cultivated, not only because it is considerably heavier in the grain, but is generally considered more palatable. It is said to do well even in the poorest soils; is not affected by cold; and being more disposed to branch out and spread its stalks, requires not so much seed for its cultivation as the common kind of buckwheat. Some persons, who have cultivated it demur to the fact of its being more productive; and complain of its flour as being blackish and rather bitter. These differences can only be reconciled by supposing differences in the modes of cultivation; in the nature of the soils, upon which it grows; in the kind of manure employed; in the manner of its being cured; and in the manufacture of the bred itself.

With a view to give the best information we have been able to obtain of its cultivation and history here, we subjoin some extracts from letters received in answer to our inquiries.

"Of its origin, says one of our correspondents, I know nothing; but report says some years since a traveller fed his horse at a public House in a town a few miles north of us (Hartland, Vt.) and that after he left, a few grains were found in the trough in some respects resembling buckwheat; and that these being sown produced the grain now known by the name of Indian Wheat. It produced 30 or 40 bushels to the acre on ordinary land, such as will not bear a good crop of any other grain; and sometimes yields 75 to 100 bushels to the acre."

"Our farmers differ much as to the quantity of seed that should be sown. Some put on a bushel, some not more than eight quarts. I should say from 16 to 25 qts. It may be sown any time till July. It requires from 2 to 3 months to come to maturity; if sown too early it will be in danger from late frosts. About the middle of June is the usual time of sowing here."

"The land should not be too rich. On common land without manure it succeeds well. Poor sandy land that is not worth cultivating in any other grain produces a fair crop. The ground should be prepared as for rye or oats. If the land be poor it should be left as smooth as possible that the grain may be cradled low; as it generally branches out near the ground especially when sowed thinly or on poor land. The average weight is 48 to 50 lbs. per bushel. It is used for various kinds of bread stuff; also for feeding hogs, horses, cows, &c. When floured as it should be it makes good bread if eaten when new, whether warm or cold. It will mix well with rye and Indian meal for coarse bread. It is thought by some to be equal to corn for fattening hogs, bushel for bushel, but I think this is a mistake. I have known no experiments to test its value. It is fed to horses by some persons, but probably oats by weight are preferable. On the whole I think it a very valuable kind of grain, especially in places where the land is naturally poor or has become exhausted by long continued cultivation."

We have another letter before us, which states; "I suppose the right name of this grain to be Indian Wheat. It has been cultivated a number of years in Vermont, and in some parts of New York; but where it originally came from I cannot tell. I broke up last year about 2¼ acres of a piece of pasture land; sowed one bushel and two quarts, and obtained one hundred bushels, which was the greatest yield I have heard of. It has been raised on almost all kinds of land. I sowed it last year on the 10th of June. I think it should be gathered when three

fourths of the grain are ripe. It will produce from 20 to 25 lbs. of flour per bushel. It is used as an article of food considerably in these times of scarcity, and is much used for fattening swine."

Such are the accounts we have received of the cultivation of this article of produce, which is comparatively new among us. We have been informed on authority on which we rely that it has this year yielded 75 bushels to the acre; but the circumstances under which this product has been obtained, have not come to our knowledge. It would be wrong to calculate upon any such amount as usual or probable. That which we have tested weighed 49 lbs. to the bushel. A farmer with whom we are acquainted, who has used it in his family, has obtained 35 lbs. of flour to a bushel of grain. A grain weighing this much, and yielding in a poor soil, without manure, even 25 or 30 bushels to the acre must be pronounced a valuable acquisition. It is advised by some farmers to use it for horses; but one writer says, he has known it to produce a stupefying effect. Young says a bushel goes farther than two bushels of oats. In fattening swine it is said that eight bushels of buckwheat will go as far as twelve bushels of barley meal. We give these statements entirely upon the authority of others, having had very partial experience in the use of it for feeding. Buckwheat cakes, which are almost a standing dish in Pennsylvania and Maryland, when well made, and eaten warm, are much esteemed by most people; are deemed nutritious; and have the advantage of not turning acid upon the stomach.

The plant is cultivated in many places extensively for its advantages in feeding Bees; its blossoms containing a large quantity of honey and remaining a long time open, different plants in the same field, and different parts of the same plant opening in flower at different times. One writer says "the *haulm* of Buckwheat is more valuable than clover if cut while in flower." It is of little value as food for animals after the seed has ripened.

One person says he has seen hogs after having eaten heartily of it become so inebriated as to be unable to walk without reeling. How far the use of it for swine would under such circumstances compromit those good men, who have signed the temperance pledge, is a nice question in casuistry, which we shall leave to them to decide. Perhaps they will construe their obligation in this matter as applying to the furnishing the means of intoxicating only to human swine.

On its value as a green dressing and for the purpose of ploughing under; and as a protection of the young wheat, we shall have something to add at a future and more convenient season.

On Wheat, &c.

[*Extract from Gov. Hill's Addeess before the Merrimac Co. Agricultural Society, October*, 1837]

It has been supposed that the soil of this State is not adapted to the production of wheat. The weevil here has attacked and destroyed many early sown fields, and it has done the same in other wheat growing countries. And the late sowed wheat is liable to be injured by rust. Our smooth swells are some of the best land: here the frost frequently and generally holds off till October, sometimes a full month after every thing has been cut down upon the plains and in the vallies. These high swells are peculiarly adapted to oats, and when properly prepared with manure, are almost certain to produce wheat. It has been mentioned to me that a farmer in the town of Canterbury (Mr. Joseph Haines) this year raised seventy-three bushels of wheat on less than two acres of sowing, which was measured after it was thrashed and winnowed. A sample of wheat from the same town has been exhibited this day from the farm of Thomas Ames, Esq. This gentleman has raised 37½ bushels from 126 square rods, a little more than ¼ of an acre, being at the rate of more than 47½ bushels to the acre. This wheat was sown on the 29th of May; it is of the new kind called the Black Sea Wheat, and it is remarkable that this kind of wheat has produced a perfect crop, while the ordinary wheat along side of it has been deficient. The fact is here presented of as large an amount of wheat as ever grew on the like quantity of ground in any part of the fertile West; and, meagre as has been the exhibition this day, the presentation of this article would pay us for all the trouble in attending on this occasion. A traveler from Saratoga, N. Y. a few days since informed me that he saw more good fields of wheat growing in New Hampshire between this place and the Connecticut river than he saw in all the distance between Ballston and the Connecticut river. Rich and highly cultivated land, especially if an ingredient of the manure applied be lime, in the high parts of this State, will be almost as sure of a crop of wheat as of any thing else.

Indian corn likewise, if the smaller and earlier kinds be planted, will in land that is not frosty, with the proper stimulants, be nearly sure of a crop.

But if Indian corn shall fail us, there are other grains which may be raised in abundance as a substitute, as oats, barley, buckwheat, &c. Indian buckwheat (differing somewhat from the ordinary buckwheat) will yield an abundant crop; it is as heavy as Indian corn, and it is said, is worth as much for fattening hogs. On a proper soil, it will produce sixty bushels to the acre—it is well adapted to dry and sandy ground—if well manured, so much the better. It would be well to sow it before the 10th of June. Ten or twelve quarts of seed to the acre is sufficient—the richer the soil and the thinner it is sowed, the more it will spread and produce. It makes excellent cakes; for several of the last days, I have morning and evening enjoyed a treat of cakes made from Indian wheat, the seed of which was sowed in the frog pounds in the month of July last.

From the Cultivator.

Ruta Baga Crop.

J. Buel, Esq.—Sir,—I have cultivated during the past season one and one-third acres of ruta baga turneps, on half of an acre of which I measured and had five hundred and seventeen bushels of roots. It was a clover sward, which had been pastured one year; soil a sandy loam. Before ploughing I put on fifty loads of barnyard manure; I ploughed it one week previous to planting. I put in my seed in drills two feet and a half apart; time of sowing was on the 22d June.

50 loads of manure, at 6s. per load,			$37 50
Spreading and carting, at 1s. do.			6 25
Ploughing one and one-fourth days, at	16s.	per day,	2 50
Harrowing one-half day, at	16s.	do.	1 00
Sowing seed one-half day, at	8s.	do.	50
Weeding three times 30 days work, at	4s.	do.	15 00
Going through with cultivator 3 times,	12s.	per day,	2 25
Pulling roots, ten days work, at	5s.	per day,	6 00
			$73 25

On the one and one-third acres I had 1,303 bushels roots.

1,303 bushels of roots, at 3s. per bushel,	$488 63
Deduct expenses,	73 25
	$415 38

Bethlehem. Nov. 18th, 1837. John J. Bullock.

Breeding of Stock.

Having, to some extent, been engaged in this business for the last thirty five years, and not altogether an inattentive observer of the various fluctuations which have occurred during that time in this important interest, I have thought it might not be entirely useless to address a few reflections on this subject, to those interested in breeding and raising stock, through the columns of your useful paper.

The abundant yield of the rich soils of the Valley of the Mississippi, under a proper course of culture, enables the grazier and feeder of stock to increase his operations to an extent unequalled by that of any other section of of our union.—The grand desideratum then, is, so to use his means as to make them most productive. I will enumerate some of the errors which have fallen under my own notice. About thirty-five years ago, great exertions were used to introduce the thorough-bred horse, and various fine animals were brought to Kentucky, of English importation. But few of them were purchesed there, of celebrity, until they become so old as to have fallen into disrepute. (It is a matter there of general notoriety, that between the age of ten and twenty years, is the time of life, when the immediate descendants of the horse are powerful, muscular, vigorous and capable of endurance. But after he has reached twenty, it rarely happens, however celebrated may have *been* his produce, that they have afterwards any claims to celebrity as runners.) Those interested in the success of the importation of that day, had the address to convince the popular mind that the mixed blood, which were then raised, should be abandoned, and the thoroughbred take their places. All who were able to raise the means of breeding to the full-bloods did so, and the consequence was degeneracy ensued—their produce were weakly, delicate, and restive—possessing few, if any, of the qualities requisite for the saddle, or farm. Such as were not runners, (and of that number there were very few,) were unfit for any other valuable purpose; many at four years old would not command the money it cost to have them sired.

Disappointed, with the bad succes attendant on this experiment, another still worse was resorted to. Large, coarse, clumsy horses, of the Conestoga breeds, were then bought; they also were freely patronised, and the opposite extreme followed, their produce were of unwieldy size, clumsy, deficient in wind, hard to keep, and utterly unfit for domestic use or foreign market. Next came the Jack, and breeding of Mules, for many years, was attended with great success, owing to the extensive demand and high prices paid for them by the planters of the South. But this, like most other pursuits which the great body of Western producers turn their attention to, is now overdone. Nearly all the breeders are either raising the blood horse or the mule, neither of which are suited to the saddle, carriage or stage; the one being restive and weekly: the other too obstinate and slow. The object of the foregoing remarks, is not to discourage breeding of either of the classes of stock above enumerated or to detract from the great merits of the blood horse, but to suggest the advantage of dividing, and equalizing this business, so as to ensure success to all. It is idle to suppose that mares of coarse blood and clumsy, or of diminutive size, will produce racers. Equally so would it be to expect small, delicate, blood mares to produce large and saleable mules. The large, coarse mares should be bred to the choice Jacks of the country; the smaller mares to the substantial, well formed, active half-blood horse, and the thorough bred, (of good size only,) to the full blood, and proven race-horse. By attentively observing these rules of breeding, great improvement would be made in each variety of stock, and a sufficient number of all kept in the country, to supply the home and foreign demand, all commanding fair prices. The great error to be avoided is that of running with the popular current from one extreme to another, unmindful of the inevitable consequence of increasing the supply beyond the demand.—*Franklin Farmer.*

Kennebec Agricultural Society.

Flax.—There was but one entry for the premium on Flax. Turner Curtis of Monmouth produced a specimen of his crop, of very superior quality as to its strength and fineness, and received the premium. The Committee express a belief that it is the wish of the fair daughters of Kennebec, who prefer the *distaff* to the *street* in spinning their long yarn, that the cultivation of this article should receive encouragement. Mr. Curtis's statement is as follows:—

The land is a rocky, yellow loam, quite wet, so that one-fourth of the crop was destroyed by water. I have not been on the farm till this year, and can state only in relation to the previous culture, that for the two preceding years potatoes were raised upon it. The land was in pretty good order, and I put no manure upon it.

I ploughed the land the first of May, and sowed it about the middle. I put one peck of seed upon the one-fourth acre, and harvested it the last of August. I had forty-seven bundles,—have dressed but five bundles, being an average size and quality of the whole, and had from those five bundles twelve and a half pounds of flax, of which I offer you a fair specimen.

Expense of the Crop.

Ploughing and harrowing, one yoke of oxen and man, one half day,	$1 00
One peck of Seed, at 8 shillings per bushel,	34
Pulling, two hands a half day,	1 00
Threshing off the seed and spreading, one day,	1 00
Dressing the whole, by estimation 115 lbs., at the rate I pay,	7 67
	$11 01
Deduct the value of 2½ bushels of seed, at 8 shillings per bushel,	3 34
Cost of 115 lbs. flax, exclusive of use of land,	$7 67

From the Yankee Farmer.

On Mixing Lime with Manure.

Mr. Editor:—As I have heard the question often asked why your valuable journal did not contain more respecting the use of mineral manures, I have taken the liberty to make some extracts, hoping that others that are better able will give you a series upon the subject of these manures.

In "Noticcs of a Young Farmer," which is ascribed to the Hon. Judge Peters, of Pennsylvania, (than whom no one stands higher on the roll of American Agriculturists) we have the following directions and assertions: "Mix *earth* with fermeatnig litter or muck, rather than lime, until the fermentation be sufficiently advanced. Plaster, in compost in which vegetable matter is mixed, is more benficial than lime." Again he says, "Mix not hot lime with your muck, dungs, or compost heap before fermentation has ceased, or sufficiently advanced, as it injures moderate fermentation, and often consumes the muck. Instances of even conflagration of straw muck, by hot lime, to a great extent, can be given. If lime be used, that which is slacked is safest and best, when mixed with either dung or compost." The same opinions are expressed by other authors. The writer of the article "Compost," in Rees's Encyclopedia, directs, in making composts, to interpose a layer of earth between every layer of dung and of lime. I should think that in all cases were the manure is combustable, *quick* lime would injure if not destroy it, and I do not see why a cultivator may not as well burn a straw or muck heap with *hot coals* as with *hot lime*. I will here subjoin one other quotation from the work of Judge Peters: "Nothing requires more attention to the nature and quality of your soil than the use of lime.—If it be too lavishly applied, or too frequently repeated without intervals of grass to furnish vegetable matter, or manures, either animal or vegetable, ploughed in for the lime (according to the country phraseology) to feed on, it renders your ground lime sick, and

reduces it to sterility. Our caustic lime must be applied in quantities far less than the *mild* lime of Europe, if we would avoid turning a highly beneficial auxiliary into a destructive scourge. No certain rules, as to quantity per acre, can be fixed without a perfect knowledge of the soil to which it is to be applied. In all cases, moderate quantities at first, are the safest. Our common lime is here meant; as much depends on the kind of lime applied. It must therefore be the study of those that apply lime, to discover its composition, or what is called its strength, before they can form a correct opinion of its salutary or injurious uses.

It would seem that the *mild lime* had some fertilizing qualities in itself, otherwise the lavish use of it, as frequently stated, cannot be accounted for. The lime of burnt *oyster shells* is *mild*; and land of any tolerable staple will bear great quantities beyond the proper allowance, to the acre of caustic lime. Many other instances might be adduced. Both large and small quantities operate at once. But it is fugacious, and compared with caustic lime, soon exhausted. Of the mild lime of England, seven hundred bushels have been put on an acre, and two hundred bushels are common. What is the strength of their mild lime compared with oyster shell lime, or with our magnesia or caustic lime is unknown. Forty to sixty bushels of the latter are amply sufficient with us, for any worn acre; and for most part of our worn land too much at the first dressing. What quantity of oyster shell lime is proper at first, is not yet ascertained. Repetitions of smaller quantities, at intervals, would be better than applications of too much at once.

From the Cultivator.

Great Ruta Baga Crop.

Lenox, Madison co. Dec. 6th, 1837.

Mr. BUEL,—Sir,—I saw in your March number of the Cultivatior a premium offered on several articles of agriculture; I therefore send you a statement of one acre of ruta bagas raised by me this season, hoping, if it does not prove a successful competitor, the cause of agriculture may receive an additional witness in its behalf. The soil is a rich mould of sand and clay, containing besides the vegetable decompositions, some lime, and a small portion of the oxide of iron. It is first rate wheat land. The manure was drawn in the fall and ploughed in, which I deem very essential in raising this crop. About the 15th of June the seed was sown in drills about twenty inches apart one way, and from eight to ten the other. I raised from one and three-fourths acres 1,800 bushels; the three-fourths of an acre was not as well prepared as the other. The product of the acre was as follows:

Dr. To 30 loads manure, at 25 cents,	$7	50
" carting and spreading the same,	7	50
" ploughing one and a half days,	3	00
" rolling and harrowing,	1	00
" seed,		50
" sowing one-half day,		50
" Three hoeings 4 days each, at 7s. per day,	10	50
" harvesting eleven days, at 6s.	8	25
" interest on one acre, 75 dollars,	5	25
	$44	00
Cr. By 1,120 bushels ruta baga, 1s.	$140	00
" tops for fodder,	6	00
	$146	00
	44	00
Balance,	$102	00

WILLARD COTTON.

State of New-York, Madison connty, ss:

I, Stephen Chapman, a Justice of the Peace of the town of Lenox, in said county, do certify that I am well acquainted with Mr. Willard Cotton, whose name appears to the above; and that he is a man of truth and veracity and entitled to full credit. S. CHAPMAN,

December 15th, 1837. *Justice of the Peace.*

Take Care of your Bees.

They require attention in the winter. There should be some place to admit air excepting at the bottom of the hive, as that is sometimes closed with snow and ice, and if it be not clossed on the outside it may be on the inside. The perspiration from the bees freezes on the sides of the hives in cold weather, and as the weather becomes moderate it will thaw, partly on account of the change in the weather, and partly from the warmth of the bees, and it will run down the sides of the hive and again freeze and frequently fill up the door of the hive, and the bees are liable to become suffocated. So the entrance at the bottom of the hive should never be depended on as a breathing place for bees.

Those who have no better method for ventilating hives, can bore some holes with a gimblet at some distance from the bottom. If the holes be very near the bottom they may become filled with ice, and if they are made as high up as the comb, a small stick should be run through to clear away the comb; and the holes should be completely cleared out so as to admit the air freely, and they should be almost, but not quite large enough to allow the bees to pass out.

When the weather is moderate in winter, and in spring before the snow is gone, bees are likely to come out of their hives, fall on the snow and become so chilled that they cannot return; in this way a great many are lost.

We have found it a good way to shade hives in the winter and spring until the snow is gone, then the bees will not leave their hives until there is a greater degree of heat, so that when they do come out they will be less liable to become chilled; and besides the advantage of inducing the bees to stay at home, keeping hives in the shade will produce a more even temperature, and the bees will suffer less from cold and eat less than they will when they are chilled by a cold night and then revived by a warm sun on a pleasant day.

Sometimes when we have seen a great number of bees out of the hive and falling on the snow without the ability of recovering, we have shaded the hive and some space in front of it, and in a short time the bees that could, went in, and no more came out. But this method of shading is not always sufficient to keep the bees within when they cannot safely go out, and we think that they should be confined within the hive, but allowed sufficient air; and the shading in addition will be an advantage, as they will not be so much revived and make a *fuss* because they cannot get out when the warm sun invites them abroad; they will be calm and quiet like Knickerbocker's fat Gov. Vantwiller, instead of being uneasy like his poor successor, Peter Testy.

Whether shading bee hives in the spring will retard the production of young bees or not, we cannot say from any experiments; though it seems reasonable that the warmth of the sun upon the hives will be an advantage in hastening the time of swarming. On this subject Dr. Thatcher, in his excellent work on bees, says—

Heat is the great principle which animates insects, and cold is the bane of their existence. Heat has great influence in promoting the hatching of the young brood in the spring, by which the colony is rendered more numerous.

The better method of confining bees and affording them fresh air, is by using a hive properly constructed for that purpose, a description of which we intend to give in some future number.—*Yankee Farmer.*

From the Yankee Farmer.

Profits of Gardening.

Mr. COLE:—Last year, I purchased at your office the following seeds, one paper of each, at 6¼ cents per paper, amounting to 37½ cts, which yielded as follows;

Ruta Baga,	30	bush. at	25 cts.	$7	50
T. R. Cabbage,	30	do	31¼	9	37½
Sugar Beet,	8	do	75	6	00
Onion,	5	do	1 00	5	00
Carrot,	7	do	33	2	31
Parsnep,	6	do	50	3	00
				$33	18½
Cost of raising and seed,				5	37½
Profit,				$27	81

Probably I should have had double the amount had I put the seed on more ground, as the vegetables grew very large; some of the ruta bagas weighed from 8 to 10 pounds apiece—the turnep rooted cabbages below ground 12 lbs. and some of the sugar beets over six pounds. I mention this small instance of the great profit of gardening to show what farmers and gardeners may do, and the importance of sowing and planting good seed.

A YOUNG FARMER.

THE HOLLOW HORN.

We would again remind our readers that this disease may be prevented if the following precautionary plan be adopted and adhered to:

Once a fortnight put a teaspoonful of spirits of turpentine in the *cavity* or *cup* just behind the horns of neat cattle.—*Far. & Gar.*

The following is a summary statement of the product of root crops offered the Kennebec county Agricultural Society for premiums:

Ruta baga, the product of 1 acre,	1126 bush.
Potatoes, English whites, do.	373 "
Mangel wurtzel, one-fourth acre,	100 "

Fruit Trees For Sale.

THE subscriber respectfully informs his friends and the public that he has for sale at his Nursery in Rochester, Monroe county, state of New York, a large quantity of Fruit Trees, grafted and innoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.

apr 15-tf

N. B. CASH will be paid for a few thousand two years old APPLE TREES.

Extensive Sale of Imported Stock,

At the Old Norton Farm, East Bloomfield, five miles west of Canandaigua, Ontario Co., New York.

NUMEROUS applications having been made to purchase this stock, the proprietor has concluded, that in order to afford a fair opportunity to those who have already made enquiries and others desirous of obtaining the breed to offer the same at

PUBLIC AUCTION,

On Wednesday the 2d of May next,

on which day will be sold twenty *Improved Durham Short Horns*, Bulls, Cows and Heifers of various ages. Amongst the former is the famous Bull "ROVER," which was bred by the Earl of Carlisle, got by Rockingham, dam, (Cherry) by Wonderful, gr. dam by Alfred, &c. &c. Rockingham was by Fairfax, dam (Maria) by Young Albion; gr. dam, (Lady Sarah) by Pilot; gr gr. dam by Agamemnon. Also, ALEXANDER, ORION, SPLENDOR and others. And of the Cows and Heifers, BEAUTY, PRIMROSE, own sister to Reformer, PRIZE, LADY BOWEN, BRILLIANT, &c. &c.

Three full blooded Mares and one 3 year old Stud colt, of pure racing breed, viz:—Brown Mare FALCONET, by Falcon, dam by Catton, (Hindcliff's dam) Hannah by Sorceror Amelia, &c.

Bay mare Miss ANDREWS, sister to Caroline, by Catton, dam by Dick Andrews; her dam by Sir Peter; Play or Pay's dam by Herod, &c.

Chestnut Mare JESSICA, by Velocipede, dam by Sancho; gr. dam Blacklock, and Theodore's dam.

Bay stud colt, HUMPHREY CLINKER, by Allen's Humphrey Clinker, dam Miss Andrews, &c.

The well known stud horses TURK and ALFRED, whose stock for the two seasons they have stood is unsurpassed.

Likewise about 20 Rams and a few Ewes of the improved New Leicester breed of Sheep. These are chiefly from a Ram belonging to the celebrated breeder Sir Tatton Sykes, for which he paid 300 guineas.

The whole of the above stock were selected from the highest order of blood in England by thoir present owner who imported it direct to this country, and can be recommended as worthy the notice and confidence of breeders.

Pedigrees may be had on, or previous to the day of sale, and further information obtained on application to

THOMAS WEDDLE.

East Bloomfield, 1st January, 1838.

N. B.—The terms of payment will be liberal to those who wish.

To Agriculturists and Others.

THE subscriber, being just returned from England, made such arrangements whilst there as will enable him to import any quantity of the different breeds of Sheep, Cattle and Hogs, in that country. Those persons who wish to get Imported Stock, will be able to do so by applying, if by letter, post paid, to

JOHN COWLEN,

Jan. 6, 1838. Tully, Onondaga county, N. Y.

N. B.—The passage money only will be required previous to their arrival in New York.

Seeds for 1838.

JUST arrived at the Rochester Seed Store, a large importation of English Field and Garden Seeds, of the growth of 1837; shipped from London this fall expressly to our order, and comprising a full assortment of the choicest kinds, such as

Cabbage,	Ruta Baga,	Rye Grass,
Cauliflower,	Mangel Wurtzel,	White Dutch
Brocoli,	Sugar Beet,	Clover,
Radish,	Lucern,	&c., &c.
Turnep,	Trefoil,	

These Seeds are from one of the best establishments in Europe, and the perfect satisfaction which they have hitherto given, is sufficient guarantee of their character.

Dealers and others supplied at wholesale on very favorable terms. nov18tf REYNOLDS & BATEHAM.

Monroe Horticultural Garden & Nur-

SERIES, GREECE, MONROE CO., N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired delivered on the canal one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant gratis, or may be had by calling at the office of the Genesee Farmer.

April 1, 1837. ASA ROWE.